The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Ex parte SUJIT K. BASU, JEFFREY HRKACH, MICHAEL LIPP, KATHARINA ELBERT and DAVID A. EDWARDS

Appeal No. 2005-1152
Application No. 10/202,616

ON BRIEF

Before WILLIAM F. SMITH, SCHEINER and MILLS, Administrative Patent Judges.

MILLS, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal under 35 U.S.C. §134 from the examiner's final rejection of claims 1-47, which are all of the claims pending in this application.

Claim 1 is representative of the claims on appeal and appears as set forth below.

1. A method for delivery via the pulmonary system comprising:
administering to the respiratory tract of a patient in need of treatment, prophylaxis or diagnosis an effective amount of particles comprising:
a bioactive agent in association with a charged lipid wherein the charged lipid has an overall net positive charge, the agent has an overall net negative charge upon association, the agent is not a nucleic acid and wherein release of the agent is sustained.

The prior art references relied upon by the examiner are:

Unger et al. (Unger)	5,830,430	Nov. 3, 1998
Hanes et al. (Hanes)	5,855,913	Jan. 5, 1999
Szoka, Jr. et al. (Szoka)	5,811,406	Sept. 22, 1998
Zuckermann et al. (Zuckermann)	6,251,433	June 26, 2001

Grounds of Rejection

Claims 1-8, 24, 27-28, 32, 36-40 and 43-44 stand rejected under 35 U.S.C. 102(b) as anticipated by Unger.

Claims 1-24, 32-40, 43 and 45-57 stand rejected under 35 U.S.C. 103(a) for obviousness over Hanes in view of Szoka.

Claims 25-31, 41-42 and 44 stand rejected under 35 U.S.C. 103(a) for obviousness over Hanes in view of Szoka in further view of Zuckermann.

We reverse these rejections.

DISCUSSION

35 U.S.C. § 102(b)

Claims 1-8, 24, 27-28, 32, 36-40 and 43-44 stand rejected under 35 U.S.C. 102(b) as anticipated by Unger.

"It is well settled that a claim is anticipated if each and every limitation is found either expressly or inherently in a single prior art reference." Celeritas Techs. Ltd. v.

Rockwell Int'l Corp., 150 F.3d 1354, 1361, 47 USPQ2d 1516, 1522 (Fed. Cir. 1998). In addition, "An inherent structure, composition or function is not necessarily known. . . . Insufficient prior understanding of the inherent properties of a known composition does not defeat a finding of anticipation." Atlas Powder Co. v. IRECO Inc., 190 F.3d 1342, 1349, 51 USPQ2d 1943, 1947 (Fed. Cir. 1999).

Prior to discussion of the prior art, we must interpret claim 1 before us. Claim 1 recites a method for delivery via the pulmonary system comprising: administering to the respiratory tract of a patient in need of treatment, prophylaxis or diagnosis an effective amount of particles comprising: a bioactive agent in association with a charged lipid wherein the charged lipid has an overall net positive charge, the agent has an overall net negative charge upon association, the agent is not a nucleic acid and wherein release of the agent is sustained. The specification, page 8, lines 19-23, states that the "particles suitable for pulmonary delivery can comprise a therapeutic, prophylactic or diagnostic agent which possesses an overall net negative charge in association with a lipid which possesses an overall net positive charge" (emphasis added). Thus, we interpret the phrase "the agent has an overall net negative charge

upon association" in claim 1 to mean that the bioactive agent has a negative charge.[1]

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[1] Note that the phrase "upon association" when read in context, that is with the meaning set forth in the specification, does not mean when the bioactive agent is in association with the charged lipid that the complex has an overall negative charge or that the bioactive agent retains a negative charge.

It is the examiner's position that (Paper No. 6, pages 2-3):

> Unger teaches cationic lipid compounds which comprises [sic] at least two cationic groups. The cationic lipid compounds are particularly suitable for use as carriers in intracellular delivery of bioactive agents, including pharmaceuticals and genetic material (col. 5, lines 13-38). Cationic lipid compound refers to a lipid which comprises a cationic group and which functions generally as a positively charged ion, for example, in solution (col. 8, lines 39-44). Bioactive agent refers to a substance which is capable of exerting a biological effect [sic, and?] is preferably therapeutic in nature. The bioactive agents may be neutral or positively or negatively charged. Preferably the bioactive agents are negatively charged. Examples of suitable bioactive agents include proteins (col. 9, lines 43-57). ["]In combination with["] refers to the incorporation of a bioactive agent with a cationic lipid compound. The cationic lipid compound can be combined with the bioactive agent in any of a variety of different ways such as hydrogen bonding, covalent bonding (col. 10, lines 15-38).
>
> Unger discloses that a wide variety of materials which act to stabilize the composition may be added. Also, the intracellular delivery of bioactive agents through the use of cationic lipid compositions may be enhanced by the presence of a gaseous substance. The preferred gaseous precursor is a salt such as alkali metal salt. Examples of the gaseous precursor materials include potassium carbonate, sodium carbonate, magnesium bicarbonate (col. 23, lines 22-29., col. 24, lines 1-15).

According to the examiner, "Unger also discloses that the formulations can be administered to a patient in a variety of forms adapted to the chosen route of administration, namely, parenterally, orally, pulmonary inhalation, nasal inhalation, etc (col. 27, lines 1-10). The weight ratio of cationic lipid compound to bioactive agent is preferably from about 1:1 to about 15:1, with a weight ratio of about 5:1 to about 10:1 being more preferred (col. 27, lines 35-50)." Paper No. 6, page 3.

Appellants concede "that there may be some combinations of the agents and excipients generically disclosed by Unger that will result in a sustained release profile

upon pulmonary delivery, with or without facilitating intracellular uptake. [But] [e]ven assuming that this is true, the caselaw [sic] does not support a finding of anticipation based upon the possibility that a prior art composition possesses a limitation or property recited in the claims." Reply Brief, page 2.

More particularly, appellants argue that, "the Examiner relies only upon a broad *generic* disclosure of selected components of the prior art to support the rejection. The broad generic disclosure permits a nearly indefinite number of combinations, which requires picking and choosing among multiple variables, and does not *anticipate* the present claim. Further, reliance on the doctrine of inherency to satisfy the limitation that the composition possesses a sustained release profile is misplaced." Reply Brief, pages 5-6. We agree with appellants that the disclosure of Unger is not an anticipation of the subject matter of claim 1.

We acknowledge that Unger does broadly disclose that its bioactive agent may possess any charge including neutral, positive or negative charges. Unger also specifically discloses that negatively charged bioactive agents are preferred. Col. 9, lines 50-52.

On the other hand, we agree with appellants that the many variables present within the disclosure of Unger weaken any alleged prima facie case of anticipation alleged by the examiner. For example, to meet the limitations of claim 1, the negatively charged bioactive agent cannot be a nucleic acid. But Unger teaches that the negatively charged bioactive agent may be selected from proteins, vitamins, steroids,

polyanions, nucleosides, polynucleotides and diagnostic agents such as contrast agents. Moreover, nucleic acids are described as "particularly suitable" (col. 25-26) and Unger's working examples are all directed to delivery of genetic material. Next, one of ordinary skill in the art must focus on providing sustained release pulmonary inhalation from varied, different and distinct methods of administration. Unger discloses a broad range of administration methods, including parenteral administration methods including intravenous, intramuscular, interstitially, intraarterial, subcutaneous, intra ocular, intrasynovial, transepithelial, transdermal, pulmonary via inhalation, ophthalmic, sublingual and buccal, topical, dermal, ocular, rectal, and nasal inhalation via insufflation. Unger, col. 27, lines 2-10. Even further, the ordinary artisan must determine which, if any, lipids with a net overall positive charge and a charge opposite to that of the bioactive agent, results in sustained release of the active agent when administered by a method of pulmonary inhalation.

We do not find that the examiner has pointed to any one specific example in the disclosure of Unger which anticipates the claimed method, or has indicated why the claimed choices would have been preferred from reading the disclosure of Unger and

would have provided sustained release when delivered by pulmonary inhalation.[2]

In our view, the examiner has not established by a preponderance of the evidence why one of ordinary skill in the art, with knowledge of Unger, would have been directed to select the particular negative charge and type of bioactive agent, and combine it with the a positively charged lipid, to result in a method of sustained release pulmonary inhalation of the active agent. Nor has the examiner directed our attention to a specific example within Unger which would inherently result in a sustained release when delivered via pulmonary inhalation. Thus, we agree with appellants that the examiner has failed to establish a prima facie case of anticipation on the facts before us. "Inherency ... may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient." In re Oelrich, 666 F.2d 578, 581, 212 USPQ 323, 326 (CCPA 1981). The rejection of the claims for anticipation over Unger is reversed.

35 U.S.C. 103(a)

Claims 1-24, 32-40, 43 and 45-57 stand rejected under 35 U.S.C. 103(a) for obviousness over Hanes in view of Szoka. Claims 25-31, 41-42 and 44 stand rejected

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[2] The disclosure of Unger may not even be sufficient to support a prima facie case of obviousness. It is well settled that the "fact that a claimed compound and/or subgenus may be encompassed by a disclosed generic formula does not by itself render that compound or subgenus obvious". In re Baird, 16 F.3d 380, 29 USPQ2d 1550 (Fed. Cir. 1994).

under 35 U.S.C. 103(a) for obviousness over Hanes in view of Szoka in further view of Zuckerman.

According to the examiner (Paper No. 6, page 4)

> Hanes teaches aerodynamically light particles incorporating a surfactant on the surface thereof for drug delivery to the pulmonary system, and methods for their synthesis and administration. The particles have a tap density less than 0.4 g/cm^3 and mass mean diameter between 5μm and 30μm. Exemplary surfactants include phosphoglycerides such as L-α-phosphatidylcholine dipalmitoyl (DPPC) (col. 3, line 57 to col. 4, line 66) suitable particulate 10, lines 24-49). Hanes lacks specific teachings on other suitable lipids.
>
> Szoka teaches a method of stabilizing polynucleotide complexes by adding a cryoprotectant compound and lyophilizing the resulting formulation. Cationic lipids are useful in forming complexes to be cryoprotected and lyophilized. Conventional cationic lipids suitable for the formulations include phosphatidylethanolamine, dioleyloxyphosphatidyl-ethanolamine, 1,2 dimyristoyl-sn-glycero-3-ethylphosphocholine, 1,2 dioleyl-sn-glycero-3-ethylphosphocholine, etc (col. 6, lines 27-46). The formulations may also include buffers that can be removed during lyophilization (col. 6, lines 14-26). Charge ratios are disclosed in column 6, lines 1-9.

The examiner concludes (Paper No. 6, page 4) that

> [i]t would have been obvious to a person of ordinary skill in the art at the time the invention was made to have combined the method and formulations of Hanes on aerosolized, liposome associated drug particles with compositions of Szoka et al because of the disclosed benefits of various lipids in forming complexes and delivering therapeutic agents to respiratory system and because it provides patients and healthcare providers a wider selection of treatment and better absorption of actives systematically.

In our view the examiner has not established a prima facie case of obviousness over Hanes and Szoka. The examiner has not indicated, and we do not find, a charged lipid in particles for pulmonary delivery in the disclosure of Hanes. Hanes discloses a

lipid with a neutral charge and does not suggest a charged lipid can be substituted for a neutral charged lipid in its particles incorporating surfactants for pulmonary drug delivery. Thus, we do not find that Hanes provides an adequate reason, suggestion or motivation to select or combine the disclosure of Hanes with the cationic lipids described by Szoka.[3] Appellants argue that "the rejection does not explain why it would be obvious to turn to the teachings of Szoka to, for example, select DPePC as a lipid for manufacturing a non-nucleic acid formulation for pulmonary delivery and achieve a sustained release formulation." Reply Brief, page 7.

We agree. The rejection of the claims for obviousness over Hanes and Szoka is reversed.

According to the examiner, Hanes lacks specific teachings of suitable lipids, and the combined teachings of Hanes and Szoka, discussed above, lack specific teachings of carboxylic acid and metal salts. The examiner relies on Zuckermann for teaching compositions and methods for increasing the uptake of polynucleotides into cells. The composition comprises a lipoprotein, a polynucleotide binding molecule and a polynucleotide (col. 1, line 60 to col. 2, line 7). While teaching the synthesis of a polycationic agent, Zuckermann discloses use of aliphatic hydroxyl groups, carboxylic

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[3] Compare specification, page 44, showing (1,2-dipalmitoyl-sn-glycero-3-phosphocholine) DPPC (with neutral charge) and insulin as compared to sustained release obtained with positively charged DPePC (1,2-dipalmitoyl-sn-glycero-3-ethylphosphatidylcholine) and insulin; or page 48, showing negatively charged DSPG with albuterol sulfate is 4 times slower compared to DSPC, having no net overall charge.

acids, carboxy, thiol, amino and other reactive side-chain functionalities to minimize undesired side reactions (col. 31). Zuckermann also discloses that a pharmaceutical composition can contain a pharmaceutically acceptable carrier such as proteins, polymeric amino aids, amino acid copolymers etc. Pharmaceutically acceptable salts can be used therein, for example, mineral acid salts, phosphates, sulfates, and salts of organic acids (col. 32, lines 33-63).

The examiner concludes (Paper No. 6, page 6):

> [i]t would have been obvious to a person of ordinary skill in the art at the time the invention was made to have modified the formulations and methods of the combined references by adding the additives such as carboxylic acids, salts and amino acids as taught by Zuckermann because of disclosed benefits of such additives in pharmaceutical formulations and reduction of undesired side reactions and improving stability of the product.

We have found no prima facie case of obviousness over Hanes in view of Szoka. We do not find the disclosure of Zuckermann overcomes the deficiencies of the primary combination of Hanes and Szoka. The rejection of claims 1-24, 32-40, 43 and 45-57 under 35 U.S.C. 103(a) for obviousness over Hanes in view of Szoka and the rejection of claims 25-31, 41-42 and 44 under 35 U.S.C. 103(a) for obviousness over Hanes in view of Szoka in further view of Zuckerman is reversed.

CONCLUSION

The rejection of claims 1-8, 24, 27-28, 32, 36-40 and 43-44 under 35 U.S.C. 102(b) as anticipated by Unger. The rejection of claims 1-24, 32-40, 43 and 45-57 under 35 U.S.C. 103(a) for obviousness over Hanes in view of Szoka is reversed. The

rejection of claims 25-31, 41-42 and 44 under 35 U.S.C. 103(a) for obviousness over Hanes in view of Szoka in further view of Zuckerman is reversed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a).

REVERSED

WILLIAM F. SMITH Administrative Patent Judge	)
TONI R. SCHEINER Administrative Patent Judge	) BOARD OF PATENT) APPEALS AND) INTERFERENCES
DEMETRA J. MILLS Administrative Patent Judge	)

Appeal No. 2005-1152
Application No. 10/202,616

ELMORE CRAIG & VANSTONE, P.C.
209 MAIN STREET
N. CHELMSFORD MA 01863

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte BERNHARD LETTMANN,
ANDREAS DOPP, MICHAEL GRABBE
and HENRIK RAVN

Appeal 2008-1185
Application 10/432,070
Technology Center 1700

Decided: February 29, 2008

Before BRADLEY R. GARRIS, THOMAS A. WALTZ, and CATHERINE Q. TIMM, *Administrative Patent Judges*.

WALTZ, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellants appeal under 35 U.S.C. § 134 from the Examiner's final rejection of claims 6-13 and 15, which are the only claims pending in this application. This Board has jurisdiction under 35 U.S.C. § 6(b).

According to Appellants, the invention is directed to a process for coating uncoated plastic surfaces and old coatings using an adhesive primer.

The adhesive primer is based on an aqueous polyurethane resin (App. Br. 2).[1] Independent claim 6 is illustrative and is reproduced below:

> 6. A process for coating uncoated plastics surfaces and old coatings by applying at least one coating material to the uncoated plastics surfaces or the old coatings and curing the resulting coating film(s), which comprises
>
> applying an aqueous, clear and transparent, physically curable, pseudoplastic or thixotropic, polyurethane-based adhesion primer to the uncoated plastics surface or the old coating,
>
> physically curing the applied primer, optionally assisted by oxygen, heat, or exposure to actinic radiation, and
>
> overcoating the applied primer with at least one further coating material.[2]

The Examiner relies on the following prior art as evidence of unpatentability[3]:

Totty	4,157,994	Jun. 12, 1979
Hartung	5,368,944	Nov. 29, 1994
Mormile	5,578,675	Nov. 26, 1996

Claims 6-8, 10, 13, and 15 stand rejected under 35 U.S.C. § 102(b) as anticipated by Hartung and Mormile (Ans. 3). Claims 6-10, 12-13, and 15

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[1] We refer to and cite from the Amended Appeal Brief dated Mar. 9, 2007.
[2] We note that claim 6 in the Appendix to the Brief is incorrect (*see* the Appendix to the Answer).
[3] The three cited references formed the basis of the rejections in the Final Office Action. The Examiner cited six additional references in her Answer for providing further support on the same issues at bar. However, since these additional references were not recited in the statement of the rejection, we will not consider these references as part of the Examiner's evidence of obviousness. *See In re Hoch,* 428 F.2d 1341, 1342 n.3 (CCPA 1970).

stand rejected under 35 U.S.C. § 103(a)[4] as obvious over Hartung in view of Mormile (Ans. 3 and 6). Claim 11 stands rejected under 35 U.S.C. § 103(a) as obvious over Hartung in view of Mormile and in view of Totty (Ans. 7).

Appellants contend that Hartung fails to teach a physically curable or a clear and transparent coating, and that Mormile, in the § 102(b) rejection, would only be available to "elucidate" but not expand the disclosure of Hartung (App. Br. 5). Appellants also argue a distinction between the construction of the terms "adhesive primer" and "basecoat" (Reply Br. 2-4).

The Examiner asserts that Hartung teaches a process of coating uncoated plastic surfaces and original finishes of automobiles, comprising applying a basecoat of an aqueous polyurethane-based dispersion by spraying, flashing the coating, and overcoating with a clear coat (Ans. 3-4). The dispersion may optionally contain other water-thinnable resins, including amino resins (Ans. 4). The Examiner asserts that the coating in Hartung is inherently pseudoplastic (Ans. 4-5). The Examiner also asserts that the coating is physically curable, because the dispersion is substantially identical in structure and composition to the claimed dispersion and cures by drying to drive off solvent with assistance of heat, not by cross-linking (Ans. 5). The dispersion can be clear because it can contain iron oxide pigments, among others, and it is known in the art that iron oxide pigments include transparent colored pigments, as taught by Mormile (*id.*).

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[4] In the Final Office Action, claims 6-8, 10, 13, and 15 were rejected under 35 U.S.C. § 103(a) in the alternative to the rejection of the same claims under § 102(b). Claims 9 and 12 were rejected separately, but also under § 103(a) citing the same prior art references and the same arguments as the prior § 103(a) rejection. We hereinafter treat the 103(a) rejection over Hartung in view of Mormile of claims 6-10, 12, 13, and 15 together.

ISSUES ON APPEAL

1. Whether Appellants have shown that the Examiner reversibly erred in rejecting claims 6-8, 10, 13, and 15 as anticipated by Hartung, as explained by Mormile?

2. Whether the Appellants have shown that the Examiner reversibly erred in finding claims 6-10, 12-13, and 15 as obvious over Hartung in view of Mormile?

3. Whether the Appellant has shown that the Examiner reversibly erred in finding claim 11 as obvious over Hartung in view of Mormile and in view of Totty?

FINDINGS OF FACT (FF)

1. Hartung describes a process for applying a pigmented surface coating, referred to therein as a 'basecoat', based on a water-thinnable polyurethane resin. (Hartung, col. 1, ll. 9-11).

2. The polyurethane dispersion described in Hartung is substantially identical with the polyurethane resin forming the basis of the adhesive primer of the claimed invention. (Ans. 5; Hartung, col. 2, ll. 21-53; Specification 4:30-5:15).

3. In exemplifying the preparation of basecoats, Hartung describes use of a cross-linking agent, namely melamine – formaldehyde resin, trademarked Cymel 327®. (Hartung, col. 7, ll. 39-42; App. Br. p. 4).

4. Hartung describes a drying step of the 'basecoat' prior to application of subsequent coating layers on the basecoat. (Hartung, col. 7, ll. 65-67).

5. Hartung describes a thermal 'baking' step, subsequent to the application of all layers of a coating. (Hartung, col. 8, ll. 6-8).

6. The basecoat in Hartung incorporates various classes of pigments, including iron oxide pigments. (Hartung, col. 5, ll. 17-25).

7. Conventional iron oxide pigments include those that are transparent when formulated in a surface coating. (Mormile, col. 16, ll. 44-60).

8. Hartung describes the application of a basecoat to unfinished substrates, including metal, wood, plastic or paper (Hartung, col. 6, ll. 24-26), or to previously finished substrates. (Hartung, col. 5, l. 62 – col. 6, l. 7).

PRINCIPLES OF LAW

During examination, the claims must be interpreted as broadly as their terms reasonably allow. *In re Am. Acad. of Sci. Tech. Ctr.*, 367 F.3d 1359, 1369 (Fed. Cir. 2004). However, the broadest reasonable interpretation of the claims must also be consistent with the interpretation that those skilled in the art would reach. *In re Cortright*, 165 F.3d 1353, 1358, (Fed. Cir. 1999).

A patent cannot issue if the invention was described in a patent or printed publication more than one year prior to the application filing date. 35 U.S.C. § 102(b). To reject an application under § 102(b), the Examiner has the burden of identifying a single prior art reference describing each and every element, either expressly or inherently, of the claimed invention. *Verdegall Bros. Inc. v. Union Oil of California*, 301 F.3d 1343, 1349 (Fed. Cir. 2002). Other references or extrinsic materials may be cited in the rejection to explain an element in the cited prior art reference, as long as

they are not used to expand on the teachings of the primary reference. *In re Baxter Travenol Labs.*, 952 F.2d 388, 390 (Fed. Cir. 1991).

It is well settled that if a reference does not disclose a specific embodiment which satisfies all of the claim limitations, the reference will nonetheless describe the claimed invention within the meaning of § 102(b) if it "clearly and unequivocally … [directs] those skilled in the art to [the claimed invention] without *any* need for picking, choosing, and combining various disclosures not directly related to each other by the teachings of the cited reference." *In re Arkley*, 455 F.2d 586, 587 (CCPA 1972). Whether a reference provides clear and unequivocal direction to the claimed invention is determined on the total circumstances with respect to the disclosure of the reference, *see In re Petering*, 301 F.2d 676, 682 (CCPA 1962), including "not only specific teachings of the reference but also the inferences which one skilled in the art would reasonably be expected to draw therefrom." *In re Preda*, 401 F.2d 825, 826 (CCPA 1968); *see also In re Graves,* 69 F.3d 1147, 1152 (Fed. Cir. 1995), and cases cited therein (a reference anticipates the claimed method if the step that is not disclosed therein "is within the knowledge of the skilled artisan."). Such direction is provided to one of ordinary skill in the art where the totality of the reference provides a "pattern of preferences" which describes the claimed invention without the necessity for judicious selection from various disclosures thereof. *See In re Sivaramakrishnan*, 673 F.2d 1383, 1384 (CCPA 1982); *In re Schaumann*, 572 F.2d 312, 316-17 (CCPA 1978); *Petering*, 301 F.2d at 681-82.

Under 35 U.S.C. § 103, the factual inquiry into obviousness requires a determination of: (1) the scope and content of the prior art; (2) the differences between the claimed subject matter and the prior art; (3) the level

of ordinary skill in the art; and (4) secondary considerations, if any. *See Graham v. John Deere Co.*, 383 U.S. 1, 17-18 (1966). "The combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results." *KSR Int'l Co. v. Teleflex, Inc.*, 127 S. Ct. 1727, 1740 (2007). "[W]hen a patent 'simply arranges old elements with each performing the same function it had been known to perform' and yields no more than one would expect from such an arrangement, the combination is obvious." *KSR*, 127 S. Ct. at 1741, quoting *Sakraida v. AG Pro, Inc.*, 425 U.S. 273, 282 (1976).

ANALYSIS

Claim Construction

Appellants argue for a distinction between the terms "adhesive primer," as used in this application and in other references cited by Appellants, and "basecoat" (Reply Br. 2-4). Appellants do not explicitly apply this distinction, but we assume it is intended to distinguish their adhesive primer from the "basecoat" disclosed in Hartung. Essentially, Appellants argue that an "adhesive primer," as they have used that term, means the first or initial layer of a series of coatings, applied to an unfinished substrate (e.g., metal, wood, plastic) or a previously applied finish in need of refinishing, while a basecoat is one or more subsequent pigmented layers applied to the first adhesive primer layer to provide a color layer. We do not necessarily disagree with Appellants' characterization of its construction of these terms. However, we disagree that these distinctions were intended by Hartung for their invention. Hartung describes basecoats which can be applied directly to a variety of substrates, including plastic (FF

8), as well as to suitable primers. Accordingly, the basecoat of Hartung can function as an adhesive primer as well as a basecoat, as construed by the Appellants. Giving the broadest reasonable scope to this claim term, we find "adhesive primer" reads on the basecoat described in Hartung.

Rejection under 35 U.S.C. § 102(b)

The Examiner asserts that Hartung anticipates and describes each and every element of the invention of claim 6. The Appellants dispute the Examiner's findings of anticipation, asserting that Hartung does not teach a physically curable coating, nor does it teach a clear coating.

In the Specification, Appellants explicitly define "physical curing" as follows:

> "physical curing" denotes the curing of a layer of a coating material by filming through loss of solvent from the coating material, with linking within the coating taking place by looping of the polymer molecules of the film-forming components or of the binders (regarding the term, cf. Rompp Lexikon Lacke and Druckfarben, Georg Thieme Verlag, Stuttgart, New York, 1998, "binders", pages 73 and 74). Alternatively, filming takes place by way of the coalescence of binder particles (cf. Rompp. op. cit., "curing", pages 274 and 275). Normally, no crosslinking agents are required for this purpose. If desired, the physical curing may be assisted by atmospheric oxygen, by heat, or by exposure to actinic radiation.

Spec. 3 [emphasis added].

The Specification defines "physical curing" as the removal of solvent from the coating material, leading to linking within the coating by looping of the film-forming components (i.e., the polyurethane polymer chains), the binders, or the coalescence of the binders. The Specification does not

disclose which physical mechanism for linking occurs in the invention, whether by looping or coalescence, upon removal of the solvent.

In comparison, Hartung describes drying of the first applied basecoat. (FF 4). Giving this term its ordinary meaning to one skilled in the art, the term 'drying' would necessarily result in some amount of removal of solvent from the coating by evaporation. Appellants further assert that Hartung relies on cross-linking, a form of chemical curing, rather than physically curing the coating. However, Appellants also acknowledge that the cross-linking of polymer chains occurs in a subsequent baking step, referencing a step in Hartung performed after drying of the first layer and after all the remaining layers of the coating are applied. (FF 5, App. Br. 4). Thus, any cross-linking step involved in the Hartung method is in addition to, and not in place of, the drying, or the physical curing step. Appellants likewise disclose that additional curing steps may be used with their invention, including heat, oxygen or actinic (photochemical) curing subsequent to the physical curing step. (App. Br. 3, Spec. 3). One of ordinary skill in the art would understand these supplemental curing steps as involving chemical reaction and not physical curing methods, as defined in the Specification. Thus, Hartung's description of an additional, non-physical curing step (cross-linking) does not obviate the fact that it also describes physical curing, as that term is defined in Appellants' Specification.

Appellants also assert that Hartung does not describe or teach a clear coating, and that referencing Mormile in addition to Hartung is improper under a § 102 rejection.

In a § 102 rejection for anticipation, extrinsic evidence or documents may be referenced to explain the meaning of a primary reference, but not

to expand upon the teachings of that reference. *See Baxter Travenol Labs*, 952 F.2d at 390. Hartung describes an aqueous polyurethane resin that is pigmented, with the pigment selected from a list of pigments which includes iron oxide pigments (FF 6). Mormile discloses "transparent iron oxide" pigments that may be formulated into a surface coating (FF 7). Mormile's disclosure merely explains the nature of one type of iron oxide pigment, the use of which is already taught in Hartung. Mormile's disclosure only explains the disclosure in Hartung, without adding to or expanding upon it.

However, to arrive at the Appellants' invention of a clear primer through Hartung along with Mormile, one must "pick and choose" from two long lists of available pigment compounds to arrive at a single embodiment. *See Arkley*, 455 F.2d at 587. We find this "picking and choosing" to be excessive and thus not a description of the claimed subject matter, and therefore we determine that Hartung and Mormile together do not anticipate the Applicants' invention.

We therefore cannot sustain the Examiner's rejection under § 102(b).

Rejections under 35 U.S.C. § 103(a)

Appellants assert that the Examiner erred in rejecting claims 6-10, 12, 13, and 15 for obviousness over Hartung in view of Mormile, essentially for the same arguments regarding the limitations, "physically curable" and "clear and transparent" as addressed in the § 102(b) rejection. Appellants further argue that the Examiner has not shown any suggestion in the prior art for combining the teachings of Mormile with that of Hartung.

Appellants' arguments regarding a "physically curable" coating in Hartung are addressed *supra*, and, for the same reasons, we find them without merit. We also disagree with Appellants on the non-obviousness of

their invention over Hartung in view of Mormile. Hartung describes a basecoat that may be used as an adhesive primer, sharing most of the characteristics of Appellants' invention, but without teaching of a clear and transparent dispersion. Hartung does teach of use of iron oxide pigments (FF 6). Mormile teaches a surface coating for use in automobile refinishing comprising various pigments, including transparent iron oxide pigment (FF 7). The use of the conventional transparent iron oxide pigment of Mormile for the iron oxide pigment in the basecoat in Hartung would have been expected to achieve the same or similar results and perform the same function. *See KSR Int'l.*, 127 S. Ct. at 1741.

Appellants also stress that, according to their Specification, a clear coating must be transparent without turbidity so that the underlying substrate can be seen. (Spec. 4). However, Appellants have not provided any evidence or argument that transparent iron oxide pigments do not inherently have these characteristics. Despite the explicit description of a pigmented dispersion in Hartung, Appellants do not assert that their dispersion is necessarily either unpigmented or colorless. They actually point out that their invention "may comprise customary and known pigments and fillers in particularly finely divided, nonhiding form if the aim is to achieve a shift in shade." (Spec. 4).

Appellants also assert that the Examiner erred in rejecting claim 11 under 35 U.S.C. § 103 (a) as obvious over Hartung in view of Mormile and Totty. Claim 11 depends on claim 10, adding a limitation that the invention further comprises a preservative in the dispersion used in the adhesion primer. However, Appellant's arguments on claim 11 go solely to the obviousness of combining the teachings of Hartung and Mormile as grounds

for rejecting claim 10, the direct parent of claim 11. The obviousness rejection of claim 10 in view of Hartung and Mormile was addressed *supra*. As the Appellants do not address the obviousness of combining the teachings of Totty regarding a biocide, which Appellants' Specification equates with a preservative, (Spec. 27:15), we find that Appellants have not overcome their burden of showing that the Examiner reversibly erred in rejecting claim 11.

CONCLUSION

We do not sustain the rejection of claims 6-8, 10, 13, and 15 under 35 U.S.C. § 102(b). We do sustain the rejections of claims 6-13 and 15 under 35 U.S.C. § 103(a). Therefore, the decision of the Examiner is affirmed.

TIME PERIOD FOR RESPONSE

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED

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BASF CORPORATION
PATENT DEPARTMENT
1609 BIDDLE AVENUE
MAIN BLDG.
WYANDOTTE, MI 48192